

Shipwreck Mapping

Post-Activity

Captain's Notes



Overview

This activity is meant to serve as a post-activity for the Shipwreck Mapping Activity. In this activity, students will review the information they have gathered and the observations they have made during the Shipwreck Mapping Activity and consolidate that information into a Research Log, just like a real archaeologist. Students will need to review their data, organize it, and use it to form conclusions and make hypotheses about the shipwreck they are studying.

Difficulty/Grade Level

Difficult/Grades 4-12 (the activity can be modified for a particular age group)

Suggested Group Size

Each student should complete his or her own Research Log, but students should be able to work with their groups and/or Dive Teams to discuss observations and measurements.

Time

1 Hour

Objectives

Review the information gathered during the Shipwreck Mapping Activity and use that information to think critically and form arguable hypotheses about the shipwreck.

Skills and Strategies

- Organizing data and information.
- Using observations and measurements to imagine what the shipwreck might have looked like before it sank.
- Forming hypotheses
- Critical Thinking

Materials

- Research Log Cover Sheet
- Equipment List
- The Thunder Bay Tribune (from mapping activity)
- Shipwreck Data Sheet (completed in mapping activity)
- Log Sheet (completed in mapping activity)
- Vessel Drawing Sheet

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Procedures

1. Have the students fill out their Research Logs using the information they gathered from the Shipwreck Mapping Activity.
2. Be sure to remind students to include not only their own observations and the measurements they recorded, but also all the information and data (including historical documents) that they used to reach their conclusions about the shipwreck.
3. Give the students another 15 minutes to draw a picture of what they think the shipwreck might have looked like when it was sailing, based on the observations they made, the measurements they took, and the conclusions they came to based on their research.

Discussion

- Review what equipment the students used or could have used to help them map the shipwreck.
- What did the students learn about this wreck from their observations?
- What wreck might this be? Why?
The wreck is the E.B. Allen. Clues to its identity include the missing upper deck, its fallen mast, the fact that it was made of wood, and must have been a schooner (there is no steam machinery on board).
- How did they know what the vessel would have looked like when it was sailing on the Great Lakes?
Refer the students to the picture they drew in their Research Log.

Shipwreck Challenge

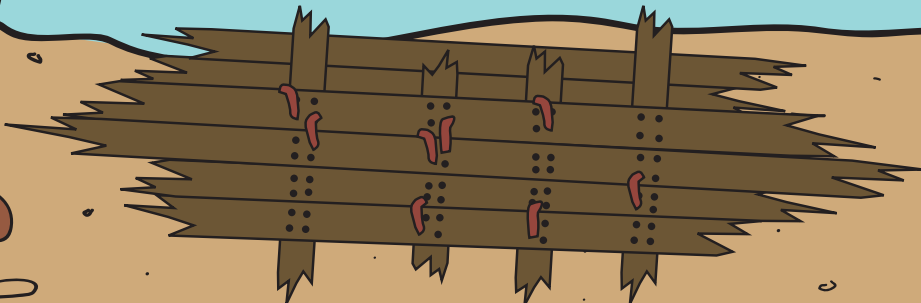
Write a persuasive essay involving your shipwreck study. What wreck is it and how do you know?

Reeling It In

Review the importance of using both historical and archaeological research to accurately map and identify shipwreck sites. It is also very important to record your research process so that future archaeologists can learn from and move forward with the research you have done.

Further Information

- Visit thunderbay.noaa.gov and the Alpena County Library for information about the shipwrecks of Thunder Bay and further education.
- Visit sanctuaries.noaa.gov for information about the Maritime Heritage Program and other National Marine Sanctuaries.



Shipwreck Mapping

Post-Activity

Arti-FACTS

Not only do archaeologists measure and carefully document the vessel, they also measure and document each and every artifact. When documenting an artifact, archaeologists always make sure to have something in the picture for scale. Here is a picture of a teapot from the Nordmeer, a German bulk freighter that ran aground in 1966 in Thunder Bay National Marine Sanctuary. Notice the ruler in the photo for scale.



Activity

In this activity, you will take the information you have gathered from your archaeological and historical research and fill out a Research Log in order to organize, present, and use that information. You will need to be sure to include everything that was involved in your research in your Research Log, from your own observations, recordings, and drawings to the documents from which you gathered your historical data. Collecting all of this information will then allow you to form arguable hypotheses about the shipwreck you have studied, its identity, and what it might have looked like before it sank.

Materials

- Research Log cover
- Equipment List
- The Thunder Bay Tribune
- Completed Shipwreck Data Sheet
- Completed Log Sheet
- Vessel Drawing Sheet

Crew Commands

1. Fill out your Research Log using the information you have gathered from the Shipwreck Mapping Activity.
2. Be sure to include not only your own observations and the measurements you recorded, but also all the information and data (including historical documents) that you used to reach your conclusions about the shipwreck.
3. Draw a picture of what your vessel might have looked like when it was sailing on your Vessel Drawing Sheet. The drawing should be based on the observations you have made, the measurements you have taken, and the conclusions you have drawn based on your research.

Vessel Vocab

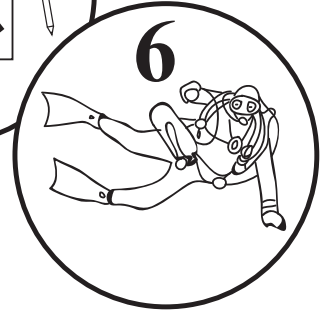
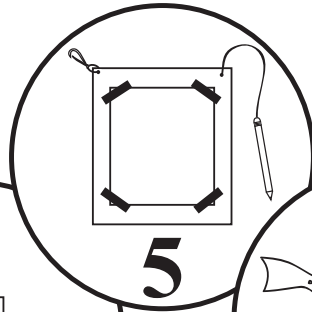
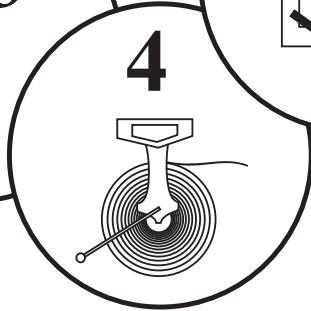
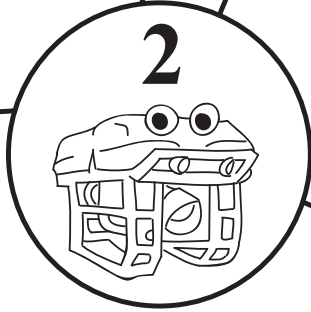
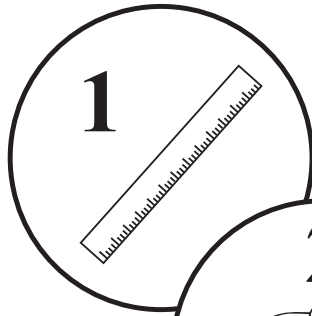
Baseline – The main line used as a base of measurement, from which a site's features are measured in an archaeological site plan.
Maritime Archaeology – A discipline that studies human interaction with the sea, lakes and rivers through the study of vessels, shore side facilities, cargoes, and human remains.
Photo Mosaic – A composite image formed from many small pictures taken of a vessel, which are then stitched together using a computer to create one large picture.
Site Plan – A scaled drawing of a shipwreck and its artifacts as it lays on the bottom of the sea or lake.

Shipwreck Challenge

Write a persuasive essay involving your shipwreck study. What wreck is it and how do you know?



Equipment List



Write the name of each piece of equipment and how you used each item for your survey site.

Item Name	What Item Was Used For
1.	
2.	
3.	
4.	
5.	
6.	


Log Sheet

Dive Team: _____

Date: _____

Archaeologists map shipwrecks by carefully measuring and drawing parts on the wreck and its artifacts. They also make many observations about the wreck like what the vessel is made of and what condition the wreck is in on the bottom. Record your dive team's measurements and observations below. Make sure to draw a picture of your section and take all your measurements from the baseline.

Sketch

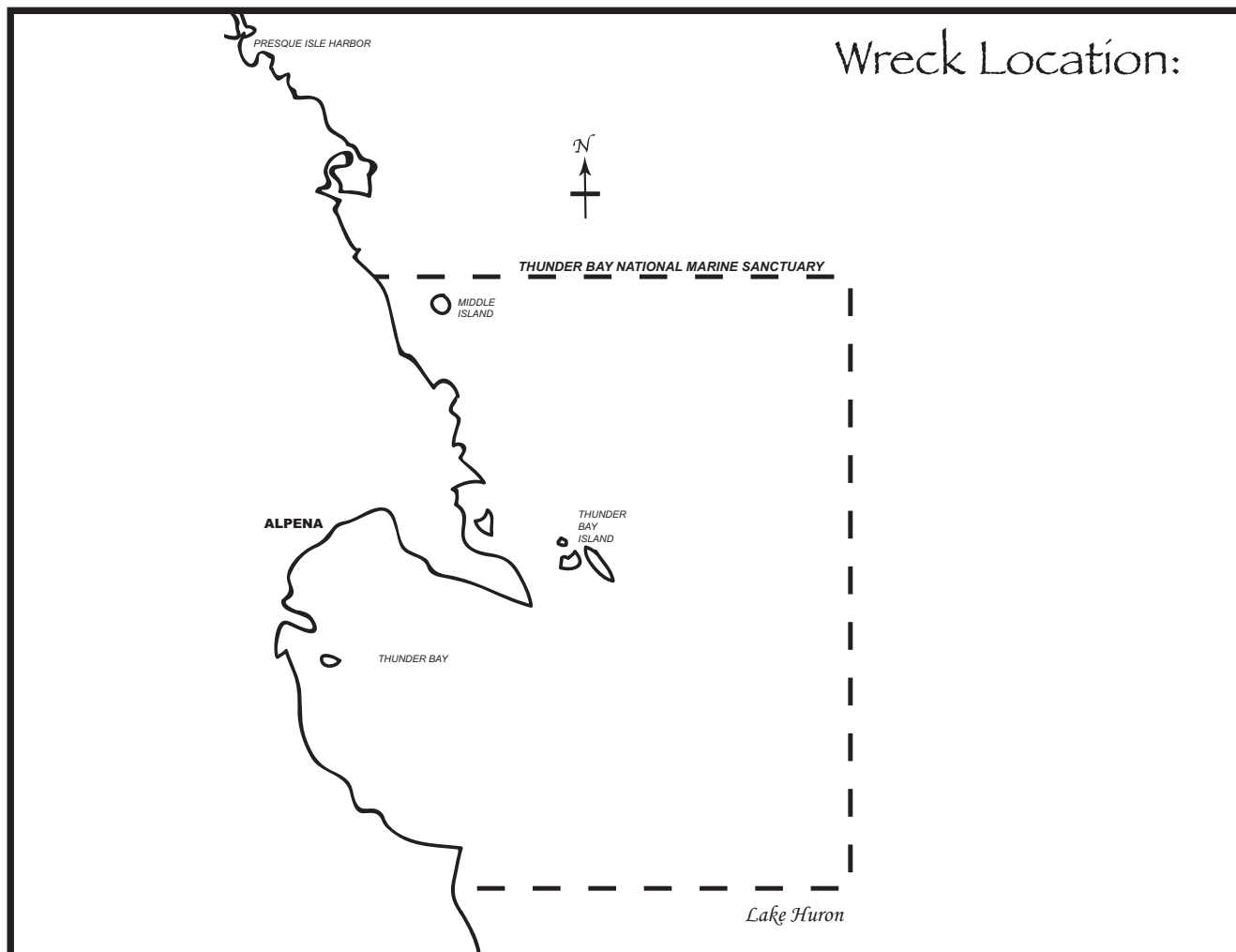


<i>Baseline Mark</i>	<i>Measurement</i>	<i>Ship Part</i>

Observations: _____

Research Log

Fill in the following information about your team members and the wreck that you are studying.



Make a dot where you think your wreck is located.

Underwater Archaeologists:

Wreck Name: _____

Date of Wreck Survey: _____

Shipwreck Data Sheet

Fill in the data sheet by completing historical research on four shipwrecks found in Thunder Bay.
This research may help you identify the wreck that you will be mapping.

Name	Vessel Type	Date Built	Date Lost	Cargo	Reason for Loss	Wreck Condition
	Bulk Freighter					

Name	Vessel Type	Date Built	Date Lost	Cargo	Reason for Loss	Wreck Condition
				Copper People		

Shipwreck Data Sheet

Fill in the data sheet by completing historical research on four shipwrecks found in Thunder Bay.
This research may help you identify the wreck that you will be mapping.

Name	Vessel Type	Date Built	Date Lost	Cargo	Reason for Loss	Wreck Condition
					Caught in the fog and collided with the Newsboy. Sank in about three minutes. Air pressure popped off deck.	

Name	Vessel Type	Date Built	Date Lost	Cargo	Reason for Loss	Wreck Condition
			1875			

THE THUNDER BAY TRIBUNE



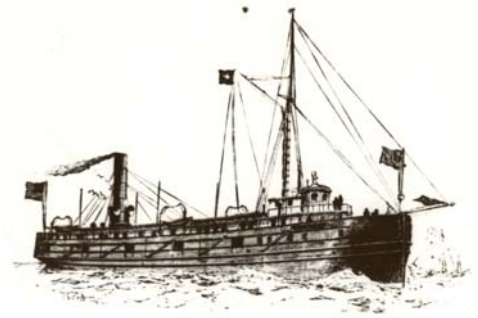
THUNDER BAY NATIONAL MARINE SANCTUARY - ALPENA, MICHIGAN

PEWABIC

The wooden steam powered PEWABIC was built in 1863 and was only two years old when she sank. The steam powered twin screw propellers on the stern of the PEWABIC. Most other steamers of this time had big side-wheels on either side of the ship that propelled them through the water. The PEWABIC also measured 200 feet long. This was very long for a wooden vessel. The bow and stern of a ship were very strong, but since the PEWABIC was so long it needed extra support in the middle. The PEWABIC had a 31 foot long support arch hidden in her center. The single arch made the PEWABIC

lighter and also made it easier to load cargo. On the PEWABIC's last voyage, she was carrying two of the most important cargos of the time, copper and people. People realized that water was a much faster way to travel. On the evening of August 9th, 1865 the PEWABIC saw her sister ship the METEOR in the distance and prepared to pass news or mail to the other ship. Right before the two ships were to meet, the PEWABIC turned in front of the METEOR. The METEOR hit the PEWABIC in the portside bow tearing a huge hole in the side. The PEWABIC sank in about 5 minutes. Because she sank so quickly, air got trapped in the hull and as the pressure increased, the top deck and cabins were blown off

the rest of the ship. The PEWABIC went down bow first and crashed into the bottom of the lake in 165 feet of water. Because she went down bow first, the front of the ship was shoved back into the hull. Divers can still see the large hole left by the METEOR that caused the PEWABIC to sink.



ISAAC M. SCOTT

Built in 1909, the steel bulk freighter ISAAC M. SCOTT measured 525 feet in length and was loaded down with 9,000 tons of coal when it left port from Cleveland in 1913. Headed for Milwaukee, the crew of the SCOTT had no idea they would be heading into one of the biggest

storms the Great Lakes has ever seen. The "Great Storm of 1913", that lasted 3 or 4 days would take the lives of almost 250 sailors, most of them on Lake Huron. The SCOTT disappeared in the heavy snow and strong waves of Lake Huron during the storm. The location of the SCOTT was a mystery until the 1970s when divers found

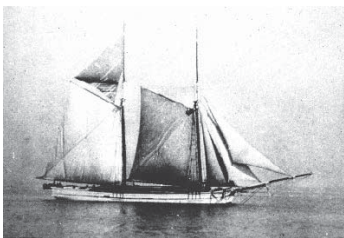
it about six miles off of Thunder Bay Island. The SCOTT and all its cargo rest on the bottom of the lake completely upside down. The powerful waves of that one storm were enough to flip over the large freighter filled with cargo. This shows just how powerful storms can be right here on the Great Lakes.



CORNELIA B. WINDIATE

The CORNELIA B. WINDIATE's final days on the Great Lakes began in Milwaukee on November 27, 1875 when she left port with a cargo of wheat. Shortly after leaving Milwaukee, the WINDIATE ran into a storm and vanished. No one knew what happened to the wooden schooner or where she went down. There were no reports that she passed through the Straits of Mackinaw and into Lake Huron. It wasn't until the 1990s that recreational divers discovered the 136 foot long WINDIATE about 100

miles past the Straits of Mackinaw. Resting in almost 200 feet of water, The WINDIATE appears to be fully intact. She is sitting upright with all three masts still standing and her life boat right beside her. The rigging is all still in place, the hatch covers are all still there, and the anchor chain still rests on the deck. The ship's wheel lies close to the fully intact deck house. There is no evidence of collision of any kind. The WINDIATE, built in 1875, is one of the best examples of a schooner from that time. Scientists believe that the WINDATE was caught in an ice storm and that ice covered everything on deck. With all the ice onboard, the WINDATE was too heavy to float, but because ice is buoyant (it floats in water), the ship sank very slowly to the bottom. The ice protected the deck from popping off as the pressure increased the deeper she sank.

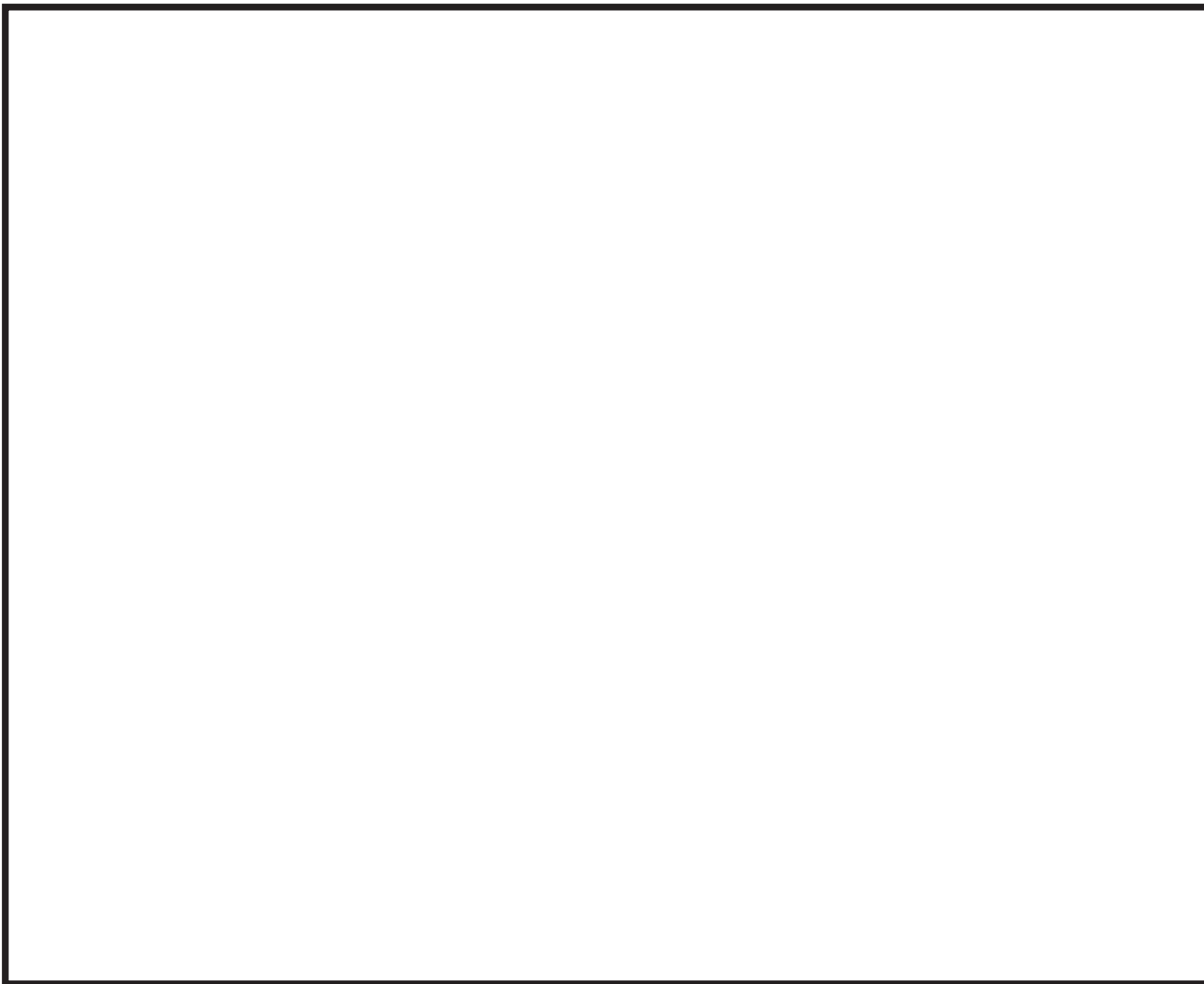


E.B. ALLEN

The E.B. ALLEN, built in 1862, was only nine years old when it left Chicago with a cargo of wheat. As the three masted, 120 foot long wooden schooner approached Thunder Bay, a thick fog rolled in. Out of nowhere appeared another vessel, the NEWSBOY. There was no time for the E.B. ALLEN to move out of the way and the NEWSBOY rammed the port side of the ALLEN making a very large

hole. Ships are strong in the bow and in the stern, but much weaker in the middle. Because the NEWSBOY hit the E.B. ALLEN with its bow, the NEWSBOY stayed afloat while the E.B. ALLEN sank quickly (in about three minutes) as water filled the cargo hold. As the ALLEN sank, air got trapped in the hull. This caused the top deck to be popped off of the ALLEN. The E.B. ALLEN now rests in 100 feet of water, but is very well preserved. The cold waters of Lake Huron protect the wrecks from falling apart. The windlass is still at the bow and one of the masts has fallen over, but is still in place. The E.B. ALLEN is sitting right side up on the bottom and the hole left by the NEWSBOY is big enough for a diver to swim through.





*Draw a picture of what you think your ship looked like when it was sailing the Great Lakes.
Why do you think it looks like this?*
